

Comparing Nutritional Quality Across Popular Fast-Food Chains

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Yongshi Xu

School of Computing and Data
Science

Wentworth Institute of Technology
Boston MA U.S.A
xuy1@wit.edu

ABSTRACT

This project analyzes the nutritional content of menu items from six major U.S. fast-food chains (McDonald's, Burger King, Wendy's, KFC, Taco Bell, and Pizza Hut) using a public dataset. The primary goal is to compare average calorie, sodium, and fat content across these chains to identify which one offers the "healthiest" options. The analysis includes a **Multiple Linear Regression** model to predict an item's total calorie count based on its protein, fat, and carbohydrate composition. The expected outcome is to provide consumers with actionable, evidence-based insights to make more informed dietary choices in a high fast-food consumption environment.

KEYWORDS

Fast Food, Nutrition, Linear Regression, Health Metrics, Calorie Prediction

1 Introduction

The topic of this project is Comparing Nutritional Quality Across Popular Fast-Food Chains. This is a critical area of investigation because millions of Americans consume fast food regularly, often unaware of the significant nutritional differences between chains and menu items. By providing data-driven comparisons and using a predictive model, this study aims to empower consumers to make healthier food choices and challenge the assumption that all fast food is uniformly unhealthy.

2 Data

*Article Title Footnote needs to be captured as Title Note

[†]Author Footnote to be captured as Author Note

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In this part, you should introduce your datasets.

2.1 Source of dataset

The dataset is the **Fast Food Nutrition Dataset**, sourced from Kaggle: <https://www.kaggle.com/datasets/joebeachcapital/fast-food>.

2.2 Characters of the datasets

The CSV file contains nutritional information for menu items from six major fast-food chains. Key fields include: Company, Item, Calories, Total Fat, Sodium, Carbs, and Protein.

3 Methodology

In this part, you should give an introduction of the methods/model. First, what's the method/model. What's the assumption of this method/model. What's the advantage/disadvantage of this method/model. Why did you choose it. What Python module or function do you apply to apply this method/model. Any optional input/extrawork did you adjust to make the results better. If you have multiple methods, feel free to use subsection 3.1, 3.2, 3.3, ... to separate them.

3.1 Heading Level 2

3.2 Heading Level 2

...

Example format: The updated template, user manuals, samples, and required fonts, all are available at the URL <https://www.acm.org/publications/proceedings-template>. It contains said information for all three versions of MS Word (Windows and 2 versions of Mac). There are also separate links to the user guide, which can be referred to by the user. This URL also contains some useful video links, which describe how to add the template, structure the paper, and generate the layout, in different clips. **Display Formula with Number**

$$\frac{\sqrt{b^2 - 4ac}}{2a} \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad (1)$$

Continuation part of Paragraph Text The user must style this paragraph in **ParaContinue** style, which follows immediately after the **DisplayFormula** (numbered equation). The **DisplayFormula** style is applied only in case of a numbered equation. A numbered equation always has a number to its right. Insert paragraph text here. **Display Formula without Number**

$$\frac{\sqrt{b^2 - 4ac}}{2a} \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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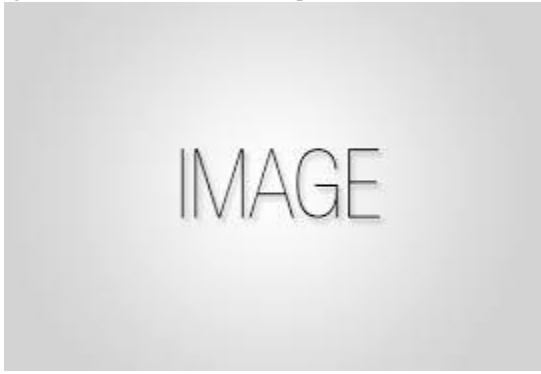


Figure 1: Figure Caption and Image above the caption [In draft mode, Image will not appear on the screen]

Theorem/Proof/Lemma. Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement. Insert text here for the enunciation or Math statement.

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4 Results

In this part, you need to select a reasonable way to deliver the result of your topic. For example, equation or numerical results, or visualization of your result. You also need to provide a clear explanation of all results and how to understand the results. If there exist any unexpected results, please explain why or possible cause of this special result. You can use subsection 4.1, 4.2, ... to separate your results.

4.1 Heading Level 2

Example format: In the below paragraph, it is explained how alt-txt value is placed in **MS Word 2010**. To add alternative text to a picture in Word 2010, follow these steps:

1. In a Word 2010 document, insert a picture.
2. Right click on the inserted picture and select the **Format Picture** option.
3. Select the **Alt Txt** option from the left-side panel options.
4. In the "Title:" and "Description:" text boxes, type the text you want to represent the picture, and then click "Close".

Below are steps to place alt-txt value in **MS Word 2013/2016**. To add alternative text to a picture in Word 2013/2016, follow these steps:

1. In a Word 2013/2016 document, insert a picture.
2. Right click on the inserted picture and select the **Format Picture** option.
3. In the settings at the right side of the window, click on the "Layout & Properties" icon (3rd option).
4. Expand **Alt Txt** option.
5. In the "Title:" and "Description:" text boxes, type the text you want to represent the picture, and then click "Close".

1.1.1 Heading Level 3. Insert paragraph text here. Insert paragraph text here.

1.1.1.1 Heading Level 4. Insert paragraph text here. Insert paragraph text here.

5 Discussion

Every method/project has its shortage or weakness. Please discuss the unsatisfied results in your project. And discuss the feasible suggestions of future work to revise/improve your result.

6 Conclusion

In this part, you should summarize your project. What important results did you find for your topic and what's the effect of this result on the real-world?

ACKNOWLEDGMENTS

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REFERENCES

Use the following ACM Reference format for your citation

FirstName Surname, FirstName Surname and FirstName Surname. 2018.
Insert Your Title Here: Insert Subtitle Here. In *Proceedings of ACM Woodstock conference (WOODSTOCK'18)*. ACM, New York, NY, USA, 2 pages. <https://doi.org/10.1145/1234567890>

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